

WHAT IS CLAIMED IS:

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1. An image pickup apparatus comprising:
first and second image pickup portions for
receiving at least a first wavelength component of an
5 object light and a second wavelength component of the
object light different from said first wavelength
component, respectively;
first and second optical systems for projecting
the object light onto said first and second image
10 pickup portions, respectively, via different optical
paths, said second optical system projecting the object
light also onto said first image pickup portions; and
a guide path forming portion for forming a guide
path for receiving the object light projected by said
15 first optical system and guiding the received object
light to said first image pickup portion, said guide
path forming portion receiving the object light
projected by said second optical system onto said first
image pickup portion and not guiding the received
20 object light to said first image pickup portion.

2. An image pickup apparatus according to claim
1, wherein said first wavelength component is a
representative wavelength of light of a first spectral
25 distribution and said second wavelength component is a
representative wavelength of light of a second spectral
distribution which is different from said first

spectral distribution.

3. An image pickup apparatus according to claim
2, wherein said first spectral distribution is a
5 spectral distribution including peak wavelength of a
luminosity factor.

4. An image pickup apparatus according to claim
1, wherein said first wavelength component is included
10 in a spectral distribution including peak wavelength of
a luminosity factor.

5. An image pickup apparatus according to claim
1, wherein said first and second wavelength components
15 are two different color components among red, green,
and blue.

6. An image pickup apparatus according to claim
1, wherein said first and second optical systems
20 comprise a filter for extracting said first and second
wavelength components respectively.

7. An image pickup apparatus according to claim
1, wherein each of said first and second optical
25 systems comprises a single lens.

8. An image pickup apparatus according to claim

7, wherein said single lenses of said first and second optical systems are integrally formed of a glass material or a resin material.

5 9. An image pickup apparatus according to claim 8 further comprising:

 a light shielding layer provided between said integrally formed single lenses.

10 10. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a single lens provided with an infrared radiation cutting filter.

15 11. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises photochromic glass.

20 12. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a color purity correction filter.

25 13. An image pickup apparatus according to claim 1, wherein each of said first and second optical systems comprises a filter whose transmission factor becomes smaller as the distance from an optical axis thereof becomes longer.

14. An image pickup apparatus according to claim 1, wherein, when a virtual object distance D [m] is defined as a function of an image pickup angle θ [°] of said first or second optical systems to be $D = 1.4 / \tan (\theta/2)$, an interval between optical axes of said first and second optical systems is set such that change in an interval between an object image of said first wavelength component received by said first image pickup portion and an object image of said second wavelength component received by said second image pickup portion between when an object is at said virtual distance and when the object is at infinity is smaller than a pixel pitch of said image pickup portions multiplied by two.

15. An image pickup apparatus according to claim 1, wherein said first and second image pickup portions are integrally formed.

16. An image pickup apparatus according to claim 1, wherein said first and second image pickup portions are formed in a plane shape.

17. An image pickup apparatus according to claim 1, further comprising:

a plurality of openings for taking in external light through said first and second optical systems.

18. An image pickup apparatus according to claim 1, wherein said guide path forming portion comprises a first filter for extracting said first wavelength component and a second filter for extracting said first wavelength component which comes through said first filter.

19. An image pickup apparatus according to claim 1, wherein said guide path forming portion comprises a first polarizing filter for transmitting the object light received by said first image pickup portion and a second polarizing filter of a same polarizing direction as that of said first polarizing filter for transmitting the object light which comes through said first polarizing filter.

20. An image pickup apparatus according to claim 1, wherein said guide path forming portion includes a microlens for receiving the object light projected by said first optical system and guiding the object light to said first image pickup portion, said microlens receiving the object light projected by said second optical system onto said first image pickup portion and not guiding the object light to said first image pickup portion.

21. An image pickup apparatus according to claim

1, wherein said guide path forming portion includes a
microlens for receiving the object light projected by
said first optical system and guiding the object light
to said first image pickup portion, said microlens
5 being offset so as to receive the object light
projected by said second optical system onto said first
image pickup portion and not to guide the object light
to said first image pickup portion.